

# Buckinghamshire Golf Club Denham



## Archaeological Evaluation Report



April 2011


**Client: Hunter Price  
Chartered Architects**

Issue No: 1  
OA Job No: 5009  
NGR: TQ 051 868





Client Name: Hunter Price, Chartered Architects  
 Document Title: Buckinghamshire Golf Club, Denham  
 Document Type: Evaluation Report  
 Issue/Version Number: 1  
 Grid Reference: TQ 051 870  
 Planning Reference: N/A  
 OA Job Number: 5009  
 Site Code: DEGOLF 11  
 Invoice Code: DEGOLFEV  
 Receiving Museum: Buckinghamshire County Museum  
 Museum Accession No: Awaited  
 Event No: N/A

Issue	Prepared by	Checked by	Approved by	Signature
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Document File Location \\Denham Golf Club, Bucks\Buckinghamshire Golf Club Evaluation trenching  
 Graphics File Location \\Servergo\invoice codes r thru z\W\_codes\DEGOLFEV  
 Illustrated by Leo Heatley and Hannah Kennedy

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## **Buckingham Golf Club, Denham**

### ***Archaeological Evaluation Report***

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## **Summary**

*In March 2011, Oxford Archaeology South undertook an evaluation at Buckinghamshire Golf Club, Denham, on behalf of Hunter Price Chartered architects. One 'T'-shaped evaluation trench was located within the confines of the proposed building footprint. This was expected to encounter to a pond (possibly originally part of a medieval moat) that is shown on historic maps dating back to the late 16<sup>th</sup> century. It also had the potential to encounter archaeological remains buried by alluvial deposits associated with the adjacent River Colne.*

*A raised gravel bank was identified which appeared to mark the eastern edge of the pond / moat. A tree line (which partly survives in the present garden) appears to have been planted along the bank, which therefore seems most likely to be an artificial landscaped feature associated with the gardens of Denham Court. The date of construction of the bank is unclear, although it clearly overlay the Holocene alluvial sequence and was an extent garden feature until the late 20<sup>th</sup> century.*

*The soil sequence in Trench 1 was different on either side of the gravel bank: On the western side of the bank the sequence consisted of modern demolition debris, at least 1.2m deep, which was apparently used to infill the pond / moat shown on historic maps. The pond is believed to have been infilled during a refurbishment of Denham Court in the 1980s. To the east of the bank the sequence comprised garden soils to a depth of 0.8m below ground level (bgl), below which alluvium was encountered. The base of the alluvium was not encountered within the evaluation trench, although a test pit was dug at the southern end to a depth of 2.5m. The alluvium contained significant quantities of preserved organic material, including tree branches and twigs, in peaty lenses, although the only artefact recovered was a single undiagnostic flint flake found close to the top of the sequence.*

*Two series of auger samples were subsequently undertaken to establish the full depth and character of the alluvial sediments. These were sampled at 0.1m intervals and were assessed by an environmental archaeologist. They contained no evidence for human activity, but clearly show that the alluvial sequence has potential for palaeoenvironmental reconstruction and radiocarbon dating, should it be required. However the absence of significant directly associated archaeological remains would limit the potential and justification for palaeoenvironmental analysis. Similiar deposits are likely to occur extensively within the floodplain of the River Colne in the vicinity. The sandy character of the sediments near the base of the alluvial sequence suggests that they are channel deposits, which have generally low potential for containing in situ early prehistoric archaeological material.*

*Other than the eastern edge of the pond / moat feature, the results of the fieldwork indicate that there is a very low likelihood that significant archaeological remains will be encountered within the building footprint.*

*The new office block will be built on strip foundations. These have not been designed in detail at the time of writing, but are expected to be c 2m deep, in which case they will cause localised disturbance of the garden and alluvial deposits, but are unlikely to penetrate to the surface of the underlying gravels.*



## 1 INTRODUCTION

### 1.1 Project scope

- 1.1.1 In March 2011, Oxford Archaeology South (OAS) undertook an evaluation at Buckinghamshire Golf Club, Denham, Bucks, on behalf of Hunter Price, Chartered Architects. The evaluation was in relation to a proposed office building development at Buckinghamshire Golf Club, Denham Court, Bucks (OS NGR TQ 051870, Fig 1).
- 1.1.2 On 14th-15th March 2011 OAS excavated a single trench to investigate the archaeological potential of the footprint of the proposed building. Two hand auger holes were subsequently undertaken on 21<sup>st</sup> March 2011, to complete the objectives of the investigation.
- 1.1.3 This report outlines the results of the evaluation, the extent and significance of archaeological deposits identified and the likely impact of the development upon them.

### 1.2 Location, geology and topography

- 1.2.1 Denham Court is situated 1 km to the east of the village of Denham with the River Colne to the east and lies at 36.5 m OD. The site is part of Buckinghamshire Golf Club, within Denham Country Park.
- 1.2.2 Denham Court, which is a Grade II Listed Building, is situated in landscaped grounds sloping down to the River Colne. The mid-17th century wing is all that remains of the original house, the rest having been built or rebuilt in the 18th and 19th centuries, although fragments of a two-bay aisled hall, probably built pre-1350, survive at the heart of the house (Pevsner & Williamson, 1994, 273). Examination of historic maps suggests that the house may have been surrounded by a moat, prior to the late 16<sup>th</sup> century, formed by artificial channels to north, south and west, and by the River Colne to the east. Alternatively the channels could be landscaped garden features dating from the 16<sup>th</sup> century. Given the floodplain location it is likely that they also served as necessary drainage features.
- 1.2.3 The area of proposed development consists of a lawned area within the golf clubhouse grounds, to the north of the main house.
- 1.2.4 The superficial geology of the site is mapped by the British Geological Survey (BGS) as Alluvium (clay, silt, sand and gravel) overlying chalk bedrock (BGS Sheet 255, Drift, 1:50,000) (OAS 2008). The superficial deposits include Holocene alluvium overlying Pleistocene sands and gravels of the Shepperton formation.

## 2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND AND POTENTIAL

### 2.1 Archaeological and Historical Background

- 2.1.1 The medieval and post-medieval background to the site has been described in a summary desk-based assessment (DBA) produced by OAS (2008, updated 2010). The archaeological data in the following section is based on the DBA (OAS 2010), published archaeological sources and information contained in the Denham Conservation Area Character Appraisal (SBDC 2008).
- 2.1.2 An exceptional number of early prehistory sites and find spots have been recorded in the immediate vicinity of the study area, almost all of which are very closely associated with the River Colne. The site of Boyers Pit, Denham,





produced around 2000 flints of mostly early Mesolithic date but also yielded a tanged point of probable late Upper Palaeolithic date (Farley 2008; Wymer 1977). The Sanderson Factory site to the south of Denham also yielded an early Mesolithic assemblage along with a probable upper Palaeolithic layer, which was located immediately to the west of the very important final Upper Palaeolithic site of Three Ways Wharf, Middlesex (Lewis 1991). Many other Mesolithic sites are known in the vicinity, as at Iver, Uxbridge and during the M25 works at Gerrards Cross (Lacaille 1963; Farley 2008).

- 2.1.3 A polished flint axe of early Neolithic date was recovered from the mill stream at Denham court and others are known from the immediate vicinity. Neolithic flint scatters are also known from both the Denham Golf Course area and slightly further afield in the M25 corridor (SBDC 2008). Bronze Age activity includes evidence of settlement and burial at The Lea, including numerous pot sherds of both early and middle Bronze Age date and a trackway of late Bronze Age-early Iron Age date (ibid.). Bronze Age metalwork has also been recovered from the study area, including a sword from the Misbourne stream at Denham (ibid.).
- 2.1.4 Currently, little evidence is known for middle-late Iron Age activity in the immediate vicinity of the site, but Roman activity is well known. Immediately north of the study area, trial trenching revealed some trace of late Iron Age/early Roman field systems and excavations at The Lea uncovered cremation burials, buildings, ovens, wells and an extensive field system. In addition several Roman coins have been discovered in the area (SBDC 2008).
- 2.1.5 No Saxon remains are known from the parish of Denham. However, given the wealth of 11th-15<sup>th</sup> century medieval archaeology from the parish, the absence of Saxon material may simply be a product of recovery bias (SBDC 2008).
- 2.1.6 Medieval remains in the village of Denham are extensive, including numerous earthworks and the church tower of St Mary's. While many of the listed building within the village are of post-medieval date, investigative work has revealed surviving medieval phases/structural elements in several cases (SBDC 2008).
- 2.1.7 The manor of Denham, known later as Denham Court was granted to the Abbey of Westminster by a thegn named Ulstan during the reign of Edward the Confessor. The abbey rented the manor until it was granted to Queen Eleanor c. 1287. After Eleanor's death in 1290 the manor was bestowed on Westminster Abbey in 1292, which retained it until the Dissolution of the Monasteries (VCH, Vol. 3, 1925, 255-261).
- 2.1.8 Following the Dissolution, Henry VIII granted Denham Manor to Sir Edmund Peckham in 1540. However, the manor of Denham, which included the houses of Denham Place, Denham Manor and Denham Court, was seized by the Crown for debt in 1596 and granted to William Bower to hold until the debt was settled. Three months later William Bowyer obtained the site of the manor of Denham Court. William Bowyer's grandson Sir William Bowyer sold Denham Manor and Denham Place in 1670 but retained the house of Denham Court (VCH, Vol. 3, 1925, 255-261). The Bowyer family sold Denham Court in 1813 to Thomas Hackett who subsequently sold it in 1840 to Nathaniel George Lambert. In 1885 H.W.Swithinbank acquired Denham Court (VCH, Vol. 3, 1925, 255-261).
- 2.1.9 Denham Court ceased to be a family home in 1935. Today it is is the clubhouse for the Buckinghamshire Golf Club.



- 2.1.10 Examination of historic map evidence shows that no buildings were constructed within the area of proposed development from the 16<sup>th</sup> century until the very end of the 19<sup>th</sup> century. By 1899 there was a boathouse on its east side and from the mid 20<sup>th</sup> century a circular structure, possible a summerhouse, existed at the north-west corner. Both were removed in 1960-75
- 2.1.11 All of the historic maps show the area of proposed development as the northern portion of an island of land bounded on the north and east side by the River Colne, and on the west and south sides by a possible moat, or canalised stream. Denham Court itself lies to the south of the area of proposed development, which currently forms part of the gardens of the house.
- 2.1.12 A rectangular pond along the west side of the area of proposed development appears on all the maps from 1590 to 1990, but has subsequently been filled in. On the 1590 map the area of proposed development is shown as open grassland. By 1783 there appears to have been an area of formal planting beds, but these had been removed by the mid 19<sup>th</sup> century. From at least the early 19<sup>th</sup> century a footbridge connected the site to the fields on the opposite bank of the River Colne.

### 3 EVALUATION AIMS AND METHODOLOGY

#### 3.1 General aims

- 3.1.1 The aims of the evaluation, as stated in the brief supplied by Buckinghamshire County Council Archaeological Officer, are to generate a reliable predictive model of the extent, character, date, state of preservation and depth of burial of important archaeological remains within the area of study. The Written Scheme of Investigation identified the objectives for the evaluation:
- to establish the presence/absence of archaeological remains within the proposal area,
  - to determine and confirm the character of any remains present, without compromising any deposits that may merit detailed investigation under full area excavation,
  - to determine or estimate the date range of any remains from artefacts or otherwise,
  - to characterise any underlying archaeological strata down to undisturbed geology without significantly impacting upon significant younger (overlying) deposits where possible,
  - to determine the geo-archaeological and palaeo-environmental potential of any archaeological deposits encountered,
  - to establish what archaeological remains/deposits may be affected by any proposed development,
  - to make available the results of the investigation to inform the planning application and the potential for any further mitigation strategy,
  - to produce a report and full archive,
  - to disseminate the results of the investigation at a level appropriate to their importance.



### **3.2 Specific aims and objectives**

#### **3.2.1 The specific aims of the evaluation are to:**

- establish the presence/absence of the moat / pond area feature on historic maps of Denham Court,
- establish the presence/absence, depth and character of alluvial deposits associated with the River Colne, and
- establish the presence/absence of archaeological remains associated with the River Colne that could be sealed by or within the Holocene alluvium.

## **4 PROJECT SPECIFIC EXCAVATION AND RECORDING METHODOLOGY**

### **4.1 Method**

- 4.1.1 The site was examined using a single 'T'-shaped trench, measuring 20m along the east-west axis, 10m along the north-south axis and 1.8m wide throughout (Fig 2). The 'T'-shaped trench was targeted on the footprint of the proposed new building. The area of the proposed office block is c 25m x 25m, so this represents a 12% sample by area.
- 4.1.2 Prior to excavation the trench was scanned with a Cable Avoidance Tool to identify any unrecorded services. Excavation was carried out by a JCB wheeled excavator fitted with a 1.8m wide toothless ditching bucket. All mechanical excavation was undertaken under direct archaeological supervision.
- 4.1.3 All undifferentiated topsoil or overburden of recent origin was removed down to the first significant archaeological horizon, or the natural geology, or a maximum depth of 1.2m; in successive, level spits.
- 4.1.4 Due to the depth of alluvium encountered, two test pits were excavated at the eastern and southern of the 'T' to test the depth of the Holocene alluvium. Neither succeeded in revealing the underlying gravel/sands – excavation stopped at a maximum of 2.5m.
- 4.1.5 Following mechanical excavation, all areas of the trench that required examination or recording were cleaned using appropriate hand tools. Recording took place in accordance with the OA fieldwork manual (Wilkinson 1992).
- 4.1.6 Because of the failure to reach the base of the Holocene alluvial sequence in the trench, an additional phase of work was undertaken, involving the drilling of two auger holes (AH1 and AH2, Fig.2) to the surface of the underlying sands and gravels (2.05 m – 3.00 m). This was undertaken by a team of suitably trained environmental archaeologists from OAs' Environmental Department.



## 5 RESULTS

### 5.1 Presentation of results

- 5.1.1 The descriptions of the trench presented below provides a detailed overview. A comprehensive listing of associated context data can be found in Appendix A.
- 5.1.2 Recovered finds are described in Section 5.4 below. Relevant details are included in the detailed trench descriptions and within the table at Appendix A.

### 5.2 Soils and ground conditions

- 5.2.1 The land to be evaluated consisted of an area of lawn split into two portions by a north-south line of trees. The area to the west lay alongside a straightened channel or stream while the land to the east lay beside a bend in the River Colne. Ground conditions at the top of the sequence were generally dry. However, groundwater was met at a depth of 1.2 m and the trench filled with water rapidly.

### 5.3 Trench description

#### *Trench 1 (Figs. 3 and 4)*

- 5.3.1 Trench 1 was located over the footprint of the proposed new office building. The trench was moved 1.6 m south of its intended position as two trees lay directly in its path and would have greatly hindered excavation. The lawn and topsoil cover here was very thin, at only c 0.1 m.
- 5.3.2 The eastern and western sides of the trench had very different sequences, which were separated by a north-south aligned gravel bank. The bank was located in the middle section of the trench as a positive feature, buried beneath modern made ground and topsoil. The bank was initially thought to be a relict river bank. However investigation showed that it lay over the alluvium and must entirely post-date it. It also appears that the existing line of trees that runs through the proposed development on a north-south alignment may have been planted along the gravel bank. Two areas of modern disturbance, possibly tree-throw holes, were found on the eastern edge of the bank, suggesting that some trees may have been removed from the line in recent decades (a 'Smarties' lid was found at a depth of 0.8 m in one of these). During cleaning of the bank a partially burnt sherd of Victorian glazed plate was recovered from its upper surface, but no other artefacts were recovered from it. The gravel bank and tree line are interpreted as a landscaped garden feature, marking the eastern edge of the pond / moat, which is apparent on historic maps from the late 16<sup>th</sup> – late 20<sup>th</sup> century. The stratigraphic and artefactual dating evidence is consistent with a post-medieval / modern date for the gravel bank, but no more precise dating evidence was recovered.
- 5.3.3 In the eastern section of the trench the topsoil overlay a thick series of garden soils (002 and 003) and levelling soil layers (004 and 005) which in turn overlay the eastern edge of the gravel bank (007) and the top of the alluvium (006). The top of the alluvial sequence was encountered at a depth of c 0.7 – 0.8 m. A machine-excavated test pit at the eastern end of the trench, was excavated to a depth of 1.5 m did not reach the bottom of the alluvium. At at this depth interleaved lenses of fine greyish white sand were encountered. A test pit at the southern end of the trench was excavated to a depth of 2.5 m below ground level also without encountering the underlying sands and gravel.



Increasingly sandy layers, similar to those identified at the eastern end of the trench, were encountered at a depth of 2.3 m. Excavation stopped at this depth for safety reasons. The two auger holes (AH1 and AH2, Fig.2) were undertaken after the trench had had been in-filled, close the eastern and southern corners of the trench, to record the full depth of the alluvial sequence. The results are described in Appendix C.

- 5.3.4 A single stuck flint was recovered from near the top of 006. The upper organic alluvium, forming the bulk of the sequence (006), contained significant quantities of preserved organic material including several pieces from apparently unworked tree branches, and numerous smaller branches and twigs. The deposit contained peaty lenses but was not a fully developed peat. Additional alluvial deposits beneath the base of the trench were described during the auger survey, including a mid-blue grey organic alluvial silty clay (008), an increasingly sandy alluvial deposit (009), and the underlying gravel (010). These described in more detail in Appendix C.
- 5.3.5 In the western section of the trench the sequence consisted of modern made ground (011) infilling the pond / moat feature. The made ground consisted of demolition rubble, including large slabs of concrete, brick rubble, metal and plastic. It was encountered immediately below the topsoil and continued to a depth in excess of 1.2 m bgl (which was the limit of excavation in the western section of the trench). Ground water rose up much more quickly here than in the eastern section of the trench and investigation had to be abandoned. This prevented the relationship between the made ground and gravel bank from being recorded in section, but it seems certain that the demolition rubble filling the former pond overlay the western side of the gravel bank. The pond / moat is believed to have been in-filled during a major refurbishment of Denham Court in the 1980s, when the grounds were converted into a golf club (Buckinghamshire Golf Club staff, pers.comm.).

## 5.4 Finds summaries

- 5.4.1 There were very few significant finds recovered from this evaluation. A single pot sherd, one broken flint flake (not datable) and two pieces of probably unworked wood make up the entire assemblage. Numerous modern finds were noted but not retained, including brick, metal, tile, glass, pottery, bone and plastic. The volume of modern finds greatly increased west of the gravel bank where it would appear that the entire lawn area (the site of the former pond / moat) has been in-filled and levelled with demolition rubble.

### *Pottery*

- 5.4.2 One sherd of pottery was recovered from the surface of gravel/pebble bank 007 while it was being cleaned for photography. It represents a plate fragment of late 19th century date. The fabric of the sherd was discoloured, probably through burning.

### *Worked flint*

- 5.4.3 A single flint flake was recovered from close to the upper surface of alluvial deposit 006. The form is not datable, and a single piece is in any case insufficient to suggest a date for the alluvium in which was found.

### *Worked wood*

- 5.4.4 Two comparatively large pieces of waterlogged wood were recovered from near to the surface of the alluvial sequence (006) one of which was retained for closer examination after cleaning. Neither appeared to be worked, and the bark was present on both.



These are most likely to be naturally deposited tree branches with no archaeological significance.

## **5.5 Environmental data and auger survey results**

- 5.5.1 Two bulk samples were taken from the alluvium due to the presence of organic material in the waterlogged deposits. These were not associated with archaeological material and have not been processed, as the subsequent auger survey (Appendix C) provided a complete stratified sample series through the alluvial sediments.
- 5.5.2 The two hand auger sample sequences were located near the southern and eastern ends of the 'T'-shaped trench respectively. The results of a geoarchaeological assessment are described in Appendix C. In summary the two sequences produced very similar sediments, as expected, although the sequence in AH 1 is deeper than AH2. Slow flowing, low energy depositional environments are suggested by the fine-grained organic alluvial clay deposits. This sedimentary unit directly overlay sands and gravels. An impenetrable layer, presumed to be sand and gravel beds was encountered at a depth of 3.00 m in AH1 and 2.05 m in AH2. The present water table was encountered at c 1.2 m.
- 5.5.3 Contexts 006, 008 and 009 are waterlogged and contain organic material. Microscopic remains such as pollen, diatoms, ostracods and, to a more limited extent, plant macrofossils, molluscs and insects, should also be present and suitable for palaeoenvironmental reconstruction. Waterlogged plant remains or organic sediment contained within the sequence would also be suitable for radiocarbon dating, if required. However the absence of significant directly associated archaeological remains would limit the potential and justification for palaeoenvironmental analysis.
- 5.5.4 The increasingly sandy composition of the alluvium towards the base of the sequence suggests that it represents channel fill, which would have limited potential for the survival of *in situ* early prehistoric archaeological finds.
- 5.5.5 Fragments of ceramic building material and other anthropogenic material were recorded in samples from recent garden / landscaped soils, but the auger holes did not recover any artefacts or noticeable charcoal from the alluvial deposits.

## **6 DISCUSSION AND CONCLUDING REMARKS**

### **6.1 Archaeological interpretation and significance**

- 6.1.1 In summary, the archaeological remains discovered in this evaluation appear to be of very limited significance. The eastern edge of the pond / moat shown on historic maps has been successfully identified on the ground. It was apparently marked by a gravel bank planted with a tree line, which survived as an extant garden feature until the late 20<sup>th</sup> century. The gravel bank and tree line are almost certainly post-medieval / modern landscaped garden features, but the evaluation did not recover any direct evidence for the original date or function of the pond / moat itself.
- 6.1.2 The alluvial sequence clearly has significant potential for palaeoenvironmental analysis and radiocarbon dating, should it be required. However it is not associated with significant archaeological deposits, and similar deposits are likely to be extensive within the floodplain of the River Colne in the immediate vicinity. The date range of the sequence is currently unknown. The single prehistoric struck flint recovered from close to the top of the alluvium is undiagnostic, and does not constitute a significant discovery



in itself. It is difficult to be sure that it is *in situ* and it does not, on its own, provide dating evidence for the upper alluvium.

## **6.2 Potential and development impact to the identified remains**

- 6.2.1 As this trench investigation has investigated 12% of the area of the proposed building, the overall potential of the site to produce further discoveries must be considered very low, especially considering the degree of recent disturbance encountered in the western side of Trench 1.
- 6.2.2 The new office block will be built on strip foundations. These have not been designed in detail at the time of writing, but are expected to be c 2 m deep, in which case they will cause localised disturbance of the alluvial deposits, but are unlikely to penetrate to the surface of the gravels.





## APPENDIX A. TRENCH DESCRIPTION AND CONTEXT INVENTORY

Trench 1						
General description					Orientation	N-S
<p>Trench 1 was 'T'-shaped in plan and was located within the proposed building footprint. The eastern edge of a moat or pond, which is apparent on historic maps dating from the late 16<sup>th</sup> to the late 20<sup>th</sup> century, was present running through the middle of the trench. The edge of the pond appears to have been marked by a low gravel bank, planted with trees, some of which survive as a tree line in the present garden, and two possible tree throw holes were found cut into the bank. The pond was in-filled in the late 20<sup>th</sup> century with demolition rubble capped with topsoil, which forms the sequence in the western half of the trench. In the eastern half the sequence consists of garden soils overlying alluvium. The gravel bank appeared to be associated with a partly extant tree line, and is therefore probably a landscaped garden feature. A single struck flint and some wood, possibly worked, was retrieved from underlying alluvial deposits.</p>					<b>Avg. depth (m)</b>	1.2
					<b>Width (m)</b>	1.8
					<b>Length (m)</b>	20 and 10
Contexts						
context no	type	Width (m)	Thick (m)	comment	finds	date
001	Deposit	-	0.1	Topsoil, thin garden turf over very dark brown sand/silt/clay	none	Modern
002	Deposit	-	0.4	Dark greyish brown sand/silt/clay, probable garden soil, contains many post-medieval/modern finds	NR*	Post-medieval/modern
003	Deposit	-	0.2	Mid-light brown sand/silt/clay, probable garden soil, contains many post-medieval/modern finds	NR*	Post-medieval/modern
004	Deposit	-	0.1	Thin layer of light greyish brown sand/clay with mortar, brick etc	*	Post-medieval/modern
005	Deposit	-	0.15	Mid-light yellowish brown silty/clay. Possible buried former soil horizon?	none	Post-medieval
006	Deposit	-	?	Very dark grey-black highly organic silty/clay with peaty lenses	Flint & wood	?
007	Structure	4	0.45	Light reddish mid yellowish brown sand /gravel/pebble/cobble bank, orientated approx NNE-SSW, visible as a positive feature in section, with a low profile.	Pot sherd	Medieval/post-medieval
008	Deposit			(Only seen in Auger Survey - Appendix C)	none	Holocene
009	Deposit			(Only seen in auger survey - Appendix C)	none	Holocene
010	Deposit			Sandy gravel (Encountered at base of auger survey - Appendix C)	none	Holocene
011	Deposit		1.2	Concrete/brick/stone in light grey sandy/mortar/clay matrix – West end of Trench only	NR*	Modern

\*NR – Not Retained – Numerous finds of modern concrete, brickwork, glass, pot, tile, metal and plastic were noted but not retained, particularly from the western side of the trench.





## APPENDIX B. GEOARCHAEOLOGICAL ASSESSMENT

By Laura Strafford

### Introduction

Denham Golf Club was visited on 21<sup>st</sup> March 2011 in order to drill two hand auger sequences (AH1 and AH2, Fig. 2). The purpose was to clarify the depth of the alluvial sequences and investigate the palaeoenvironmental and archaeological potential of the sediments.

### Methodology

The maximum depth of investigation possible in the evaluation trench was 2.4 m, which was not sufficient to reach the base of the alluvial sediments. Therefore two hand auger investigations were undertaken at the southern and eastern ends of the 'T' shaped evaluation trench (Fig. 2). Sedimentary units were described by a qualified environmental archaeologist using standard geological terminology, and a summary proforma was completed for each trench (OA, 2000). These descriptions were used to correlate stratigraphy between auger sequences and define sediment types. Samples were taken down the entire sequence in 0.10 m spits.

### Results

The generalised sequence obtained from the auger survey is summarised below. All measurements in the following sections refer to metres below ground level (mbgl):

Interpretation	Equivalent contexts	Description	Depth (mbgl) AH1	Depth (mbgl) AH 2
<b>Topsoil</b>	001	Dark greyish brown clay silt Moderately compact, frequent rootlets.	0.00 - 0.10	0.00 - 0.10
<b>Garden and landscaped soils</b>	001 to 005	Mid brown clay silt with a small trace of sand, rare small stone inclusions.	0.10 - 0.70	0.10 - 0.80
<b>Organic alluvial clay</b>	006	Medium brown silty clay with high organic content. Organics (wood, plant material, etc) appear in peat like pockets. Molluscs also randomly dispersed in lenses throughout. Rare stone inclusions.	0.70 – 2.50 – water table encountered at approximately 1.10	0.90 – 1.70 – water table encountered at approximately 1.20
<b>Organic alluvial sandy clay</b>	008 to 009	Firm greenish grey silty clay with increasing sand content toward the base. Frequent organics and occasional molluscs.	2.50 - 3.00	1-70 – 2.05
<b>Sands and gravels</b>	010	Loose, light grey, clast supported sands and gravels in soft clay matrix.	Unknown – over 3.00.  Solid obstruction encountered at 2.90 – 3.00 - possibly gravel.	2.05  Gravel encountered at 2.05

Detailed results from each sequence are described below.



### **Auger Hole 1**

This auger was carried out at the southern end of the trench (AH1, Fig.2). Three locations were attempted here, all of which were terminated by a hard layer that could not be penetrated (probably gravel) at a depth of between 2.90 – 3.00 m. Sediment samples were taken down the full sequence at 0.10 m spits.

The sediments encountered from 0m – 0.70 m do not have any potential for palaeoenvironmental remains. The first 0.10 m of the sequence was made up of topsoil, the following 0.60 m consisting of successive garden soils.

At 0.70 m, the top of the alluvial sequence was encountered as a moist slightly silty clay with small infrequent organics (006). The current water table was encountered at a depth of approximately 1.10 m, at which depth the sediment was completely waterlogged. The alluvium, which continued until 2.50 m, contained fine mixed irregular lenses of organic material, including wood fragments, plant material and land snails. By 1.80 m, small pockets of a peat like material appear regularly, with a high organic content, and small terrestrial land snails were also present. By 2.30 m, the sediment began to display some sand content, and land snails were increasingly frequent.

At 2.50 m, the sediment became a light greenish grey slightly silty and sandy stiff clay (008) with abundant organics and occasional land snails. This continues until 3.00 m, with subtly increasing sand content, until an impenetrable layer was encountered which is probably the top of the gravel beds. The increasing sand content encountered in the sediments above the solid layer supports this interpretation.

In conclusion, the alluvium (006) particularly from 1.80 m onwards does have palaeoenvironmental potential, with abundant organics and frequent land snails. This potential continues into context 008. If required, material for radiocarbon dating should easily be obtained from these two contexts and radiocarbon dating would be an essential precursor to any palaeoenvironmental work. Care would need to be taken to ensure that material submitted for dating is not reworked from earlier or later contexts. Although snails were present, it is unlikely the samples from this auger sequence are rich enough to make up an adequate assemblage for full analysis, although qualitative information about the local environment could be obtained. The peaty lenses and alluvial deposits also have potential for local and regional landscape reconstruction through analyses of environmental proxies including waterlogged plant remains, insects, pollen, ostracods and diatoms.

### **Auger Hole 2**

This auger sequence was recovered from end of the eastern arm of the 'T' shaped trench (AH2, Fig.2). It reached a depth of 2.05 m, at which gravel was encountered. Sediment samples were taken in 0.10 m spits down the full sequence.

Up until 0.90 m in depth, the sequence is made up of topsoil and garden soils, a mid brown silty clay with small chalk inclusions, and some small CBM fragments, however these are not of palaeoenvironmental or archaeological interest.

At 0.80 m the sediment (006) began to display more frequent organic plant remains, and the sediment was completely waterlogged at a depth of c 1.20 m, where the current water table was encountered. The clay content of the sediment increased with depth. The organic material occurred in peat-like pockets within a mid brown grey very slightly sandy clay, the sand content of which increased slightly with depth.



By 1.70 m the sand content had increased significantly, forming a light brown grey coarse sandy clay (009), still with a high organic content, which continued until 2.05 m. At 2.05 m a clear and distinct boundary could be observed, after which a light grey clast supported coarse sandy gravel was encountered.

In conclusion, this survey produced similar results to AH1, although the sequence is shallower. Contexts 006 and 009 produced frequent organics, which would be suitable for landscape reconstruction (as above) and for radiocarbon dating if required. Land snails were not as prominent in this sequence as in AH1 and while some were observed it is highly unlikely there would be enough to make up an adequate assemblage from this auger sample alone.

### **Discussion**

The two auger sequences produced very similar sediments, as expected, although the sequence in AH 1 is deeper than AH2. Slow flowing, low energy depositional environments are suggested by the fine-grained organic alluvial clay deposits. This sedimentary unit directly overlay sands and gravels.

Contexts 006, 008 and 009 are waterlogged and contain organic material. Microscopic remains such as pollen, diatoms, ostracods and, to a more limited extent, plant macrofossils, molluscs and insects, should therefore be present and suitable for palaeoenvironmental reconstruction. Waterlogged plant remains or organic sediment contained within the sequence would also be suitable for radiocarbon dating, if required. However the absence of significant directly associated archaeological remains would limit the potential and justification for palaeoenvironmental analysis.

Apart from flecks of ceramic building material, from recent garden soils, the auger holes did not produce any artefacts. The increasingly sandy composition of the alluvium towards the base of the sequence suggests that these are channel fills, which would have limited potential for the survival of *in situ* early prehistoric archaeological finds (L.Stafford, OA Head of Geoarchaeology, pers. comm.) .



## APPENDIX C. BIBLIOGRAPHY AND REFERENCES

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## APPENDIX D. SUMMARY OF SITE DETAILS

<b>Site name:</b>	Buckingham Golf Club, Denham, Buckinghamshire
<b>Site code:</b>	DEGOLF 11
<b>Grid reference:</b>	TQ 051870
<b>Type:</b>	Evaluation
<b>Date and duration:</b>	14 <sup>th</sup> to 15 <sup>th</sup> and 21 <sup>st</sup> March 2011
<b>Area of site:</b>	54 sq.m in 1 trench (trench investigation) 0.625 ha (overall development area)

### Summary of results:

In March 2011, Oxford Archaeology South undertook an evaluation at Buckingham Golf Club, Denham, Buckinghamshire on behalf of Hunter Price Chartered architects. One 'T'-shaped evaluation trench was located within the confines of the proposed building footprint. This had the potential of encountering a pond or moat shown on historic maps dating back to the late 16<sup>th</sup> century, and also possibly early prehistoric and later archaeological remains buried under alluvial deposits associated with the adjacent River Colne.

The evaluation revealed a sequence of garden soils overlying alluvium at a depth of around 0.8m BGL. The western side of the trench encountered the eastern edge of the pond / moat, which had been extensively infilled and levelled with modern demolition material. This is believed to have occurred during a refurbishment of Denham Court in the late 1980s. A raised gravel bank was identified that appeared to match the eastern edge of the pond / moat feature as shown on the historic maps. A tree line appears to have planted along the bank, which therefore seems most likely to be a landscaped garden feature associated with the gardens of Denham Court. The date of the original creation of this feature and the adjacent former pond remain unproven, although the gravel bank clearly overlies the Holocene alluvial sequence and survived as an extent garden feature into the late 20<sup>th</sup> century.

The base of the alluvium was not encountered within the evaluation trench, although a test pit was dug at the southern end to a depth of 2.5 m. The alluvium contained significant quantities of preserved organic material in peaty lenses, although the only indication of human activity from the alluvium was a single undiagnostic flint flake from close to the top of the sequence. Two hand auger samples were subsequently undertaken to establish the full depth of the alluvial sediments. These were sampled at 0.1 m intervals and assessed by an environmental archaeologist. They contained no evidence for human activity, but clearly show that the alluvial sequence has potential for palaeoenvironmental reconstruction and radiocarbon dating, should it be required. However, the potential is limited by the lack of significant associated archaeological material.

The results of the fieldwork indicate that there is a very low likelihood that significant archaeological remains will be encountered within the building footprint.

### Location of archive:

Location of archive: The archive is currently held at OAS, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with the Buckinghamshire County Museum in due course.

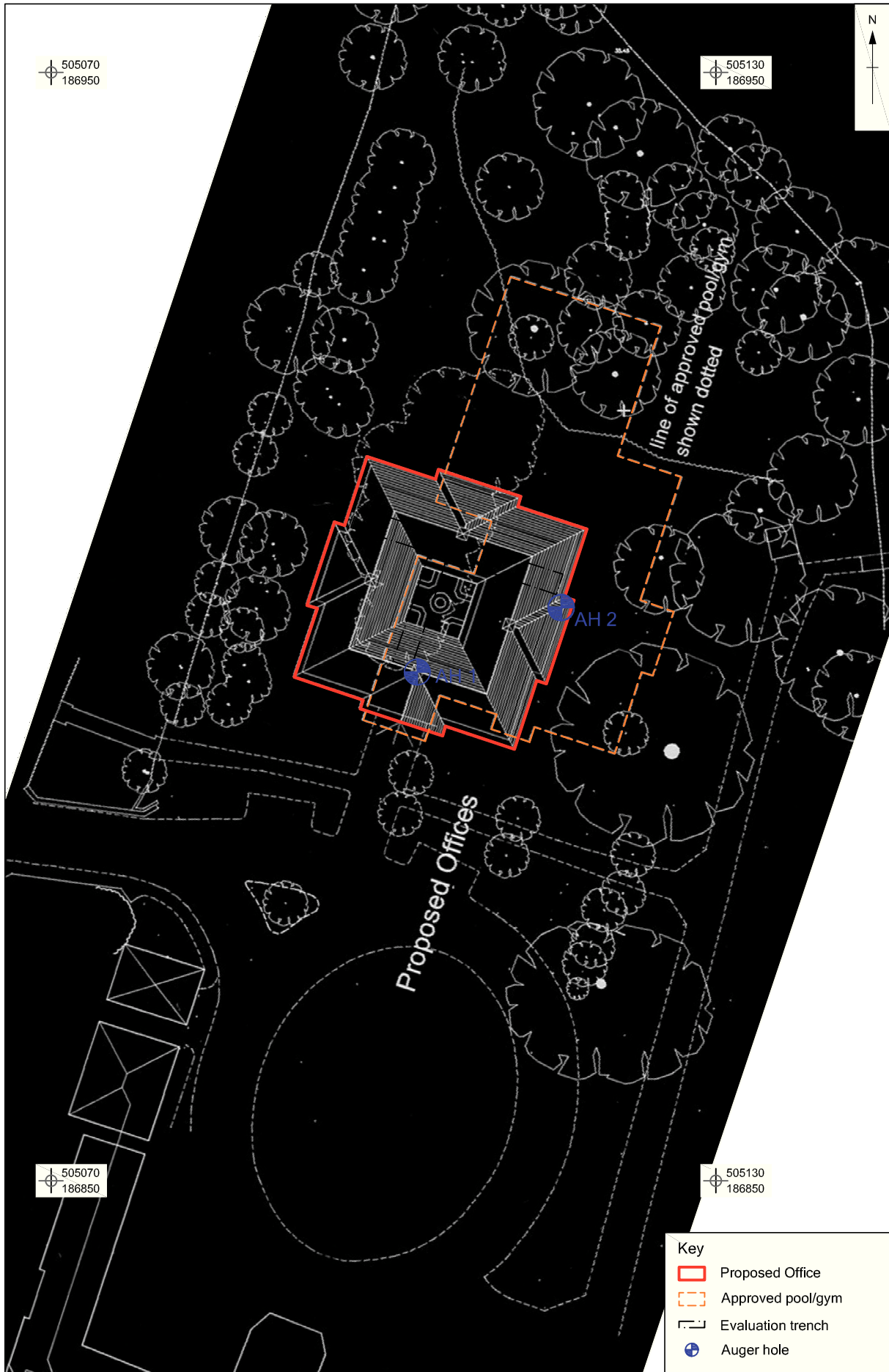


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Figure 1: Site location



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CHECKED BY: MB 18.03.2011

Figure 2: Trench plan

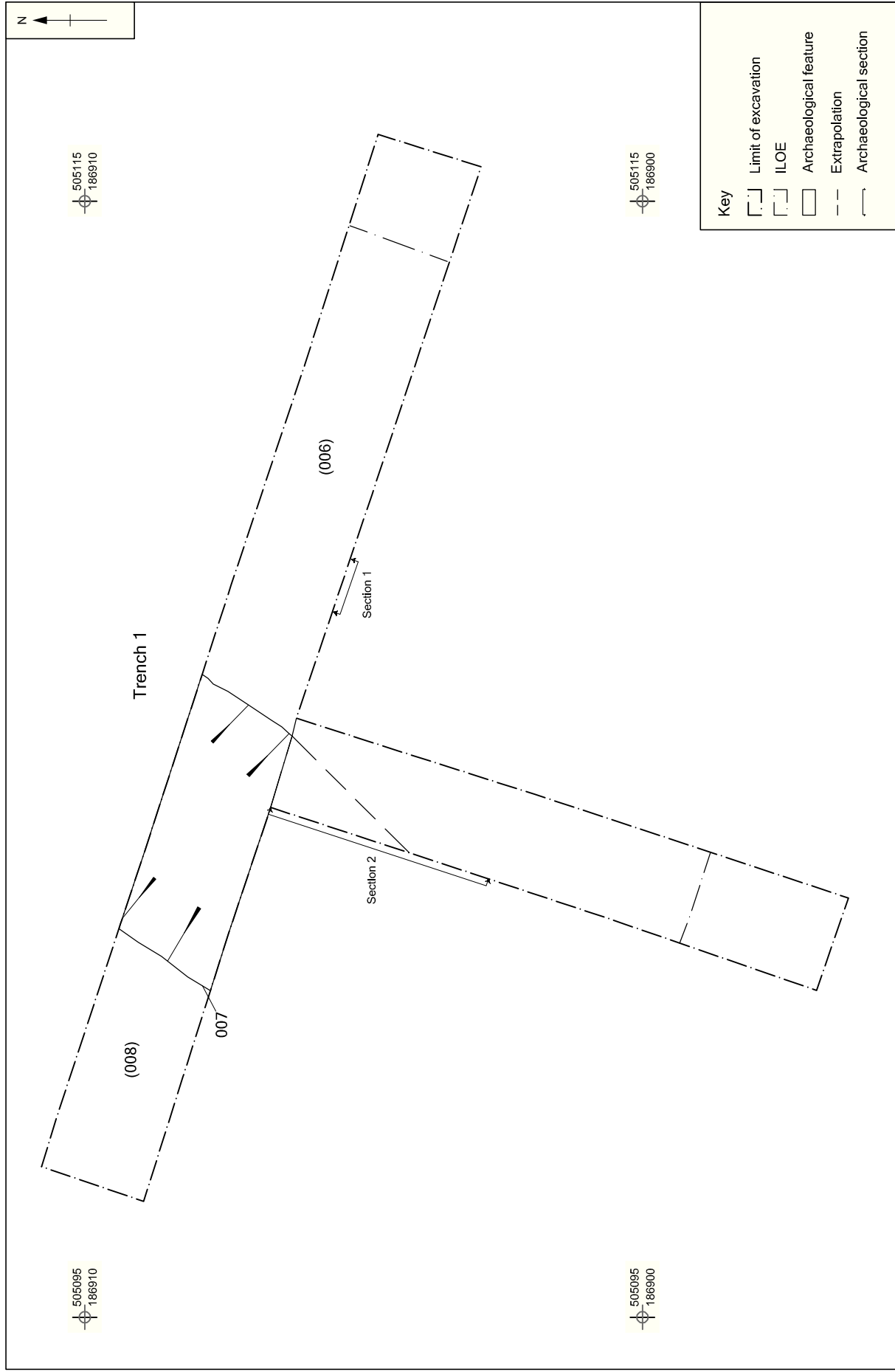
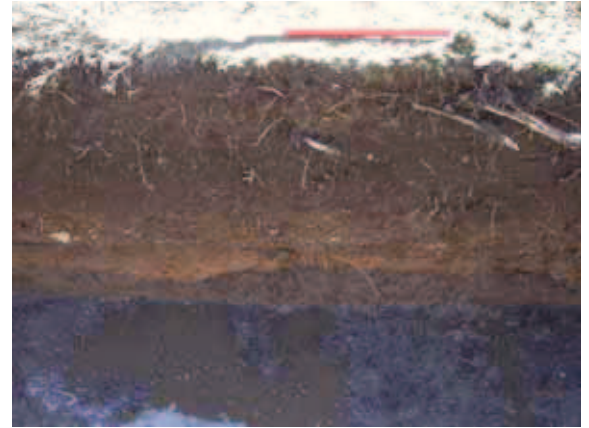
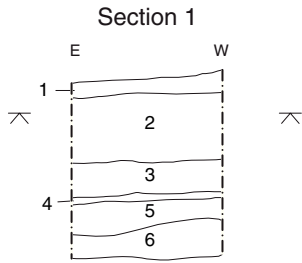


Figure 3: Trench 1 plan

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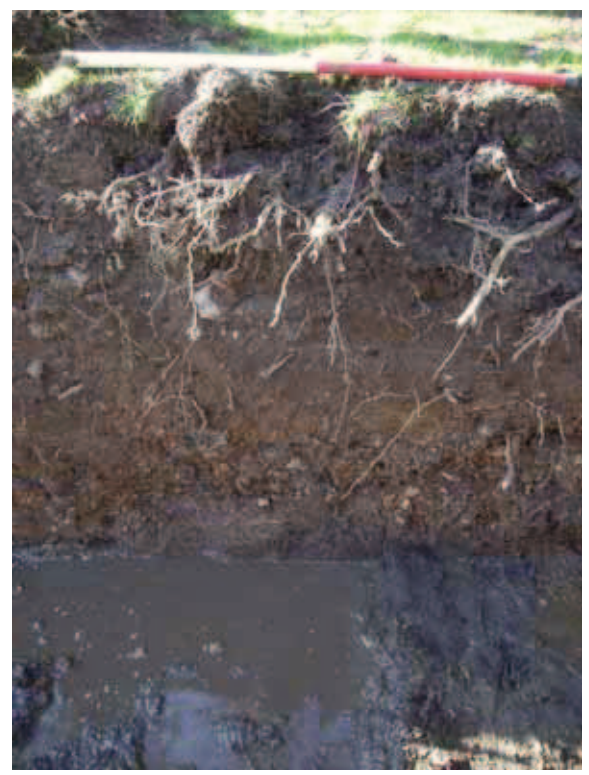
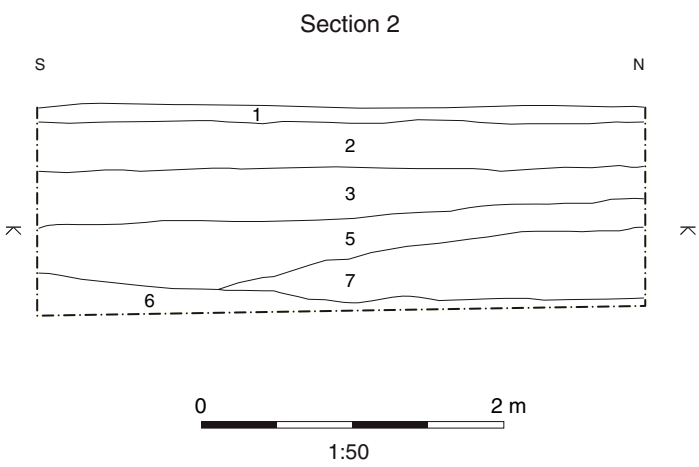




Section 1



General view



Section 2

Figure 4: Trench 1, sections and photographs





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